

# **Infantry Behind the Lines— Still A Viable Concept?**

**A Monograph**

**by**

**Major Mike McMahon**

**Infantry**



**School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas**

**First Term AY93-94**

**Approved for Public Release; Distribution is Unlimited**

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)			2. REPORT DATE	3. REPORT TYPE AND DATES COVERED	
4. TITLE AND SUBTITLE		17/12/93	Monograph		5. FUNDING NUMBERS
Infantry Behind the Lines--Still a Viable Concept? (U)					
6. AUTHOR(S)			MAJ Michael J. McMahon, USA		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School of Advanced Military Studies ATTN: ATZL-SWV Fort Leavenworth, Kansas 66027-6900 COM (913) 684-3437      AUTOVON 552-3437			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING / MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES  <i>1994-12-16 1000</i>					
12a. DISTRIBUTION / AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED			12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words)  This monograph addresses the viability of the use of infantry forces in the deep interdiction role, given the recent revisions to Army doctrine. A review of the historical use of infantry forces in the deep interdiction role shows that infantry forces can have significant operational effects, though at high cost. This monograph presents a theory that postulates that the most effective employment of infantry forces in the deep role is as the synchronizer of the deep effort against the enemy command and control system. While consistent with the new emphasis on synchronization of the simultaneous application of force throughout the depth of the enemy, there are significant coordination challenges that can not be effectively met. Most significant are the lack of sufficient long-range communications systems, a shortage of terminal guidance equipment, and severe shortfalls in the area of medical support. The fundamental conclusion of the paper is that infantry forces should be used in the deep interdiction role only as a last resort. Several recommendations are made to enable commanders to use infantry in this role in the future.					
14. SUBJECT TERMS INTERDICTION, INFANTRY, DEEP BATTLE, LIGHT INFANTRY				15. NUMBER OF PAGES 47	
16. PRICE CODE					
17. SECURITY CLASSIFICATION UNCLASSIFIED	18. SECURITY CLASSIFICATION OF UNCLASSIFIED	19. SECURITY CLASSIFICATION OF UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED		

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)  
Prescribed by ANSI Std. Z39-18  
298-102

*1994-12-16 1000*

# SCHOOL OF ADVANCED MILITARY STUDIES

## MONOGRAPH APPROVAL

Major Michael J. McMahon

Title of Monograph: Infantry Behind the Lines--  
Still A Viable Concept?

Approved by:

Robert H. Berlin \_\_\_\_\_ Monograph Director  
Dr. Robert H. Berlin, Ph.D.

James R. McDonough \_\_\_\_\_ Director, School of  
COL James R. McDonough, MS Advanced Military  
Studies

Philip J. Brookes \_\_\_\_\_ Director, Graduate  
Philip J. Brookes, Ph.D. Degree Program

Accepted this 17th day of December 1993

Accession For	
NTIS CRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Date Issued	
Acquisition Codes	
Print and/or Fax	
Special	

A-1

## ABSTRACT

INFANTRY BEHIND THE LINES--STILL A VIABLE CONCEPT? by MAJ Michael J. McMahon, USA, 48 pages.

This monograph addresses the viability of the use of infantry forces in the deep interdiction role. Light infantry doctrine holds that infantry can add to the interdiction effort by striking enemy combat support, combat service support, and command and control assets, as well as enemy reserve combat forces. However, American commanders have been reluctant to use their infantry forces in this role. The purpose of the paper is to analyze the potential for future use of infantry interdiction operations, in light of the recent revisions to Army doctrine, as espoused in FM 100-5, Operations.

A review of the historical use of infantry forces in the deep interdiction role establishes a framework for the analysis of potential future application of the operation. The experiences of the 32nd Russian Cossack Division in August 1941, the 6th Division of the North Korean People's Army in August, 1950, and the U.S. 10th Mountain Division (Light) during REFORGER 90 show that infantry forces can have significant operational effects, though at high cost.

This monograph presents a theory that postulates that the most effective employment of infantry forces in the deep role is as the synchronizer of the interdiction effort against the enemy command and control system. This is consistent with the new emphasis on synchronization of the simultaneous application of force throughout the depth of the enemy. However, there are significant shortcomings associated with the coordination requirements for the force in this role. Most significant are the lack of sufficient long-range communications systems, a shortage of terminal guidance equipment, and severe shortfalls in the area of medical support. The last shortcoming is especially important given the recent emphasis on achieving quick, decisive results with minimal casualties.

The fundamental conclusion of the paper is that infantry forces should be used in the deep interdiction role only as a last resort. Other means of attacking deep can achieve many of the desired results without being directed by infantry forces in the enemy rear. Though these means may be less efficient and effective without the infantry force as the synchronizer, the relative risks of the loss of the infantry force are too great, and the coordination requirements too difficult, for the commander to send his infantry deep. However, several recommendations are made to enable commanders to use this tool in the future if the need arises.

## TABLE OF CONTENTS

I. INTRODUCTION .....	1
II. HISTORICAL BASIS .....	6
<i>32nd Russian Cossack Division, 1941</i> .....	6
<i>6th North Korean People's Army (NKPA) Division, 1950</i> .....	12
<i>10th Mountain Division (Light) 1990</i> .....	16
III. ANALYSIS .....	22
<i>Modern Application</i> .....	22
<i>Simultaneity</i> .....	24
<i>Coordination</i> .....	28
<i>Substitutability</i> .....	32
<i>Survivability</i> .....	35
IV. CONCLUSIONS AND RECOMMENDATIONS .....	38
ENDNOTES .....	42
BIBLIOGRAPHY .....	45

## I. INTRODUCTION

"Splash, out." Four seconds later Specialist Jim Tierney watched the column of forty fuel trucks disappear in a cloud of dust and flame as the volley of MLRS-delivered munitions hit their mark. The two mines that he and his squad had placed at the bend in the road had stopped the convoy long enough for the fire mission to take its intended toll. Two kilometers to the east, Southlander LTG Carlos Orneiga looked at the map in front of him in puzzlement. During the past twenty hours his motorized corps had lost thirty percent of its fuel trucks, a divisional command post had been attacked, four of his artillery batteries had been destroyed by MLRS fires, and his own CP had been hit by air strikes after he had been forced to use radio transmissions because his landlines had been cut. Orneiga realized that this last strike on the fuel convoy meant that the corps could not reach its objective without a lengthy pause. This pause would allow the Americans to finish deploying their heavy forces to Northland, and his chance of a quick victory by securing the only port in Northland would be lost. Orneiga called his reserve division to commit an additional regiment to guard the lines of communications and hunt down the enemy in the corps' rear area. He then called the commanders of the lead divisions to cancel the attack, ordering them into defensive positions along the border.

This fictional vignette illustrates the potential operational impact of interdiction operations by light infantry forces behind enemy lines. An infantry battalion operating deep in the enemy rear may disrupt the enemy's efforts to a magnitude far greater than an infantry battalion fighting more conventionally. While the value of such operations has been theorized by the American Army, they have rarely been employed in combat. Only recently have units trained in tactics to infiltrate the enemy rear and disrupt rear

operations with ground maneuver forces, particularly light infantry forces. In the mid-eighties, the new light infantry divisions began thinking about the mission, as a way to disrupt the momentum of the forces that NATO faced on the Central European front. The 10th Mountain Division trained the employment of light forces in the enemy rear for interdiction purposes during the Return of Forces to Germany (REFORGER) exercise in 1990, and the 25th Infantry Division trained the mission during several Team Spirit exercises in Korea.

American commanders, while recognizing the great potential impact of infantry deep interdiction operations, have been reluctant to use them during Battle Command Training Program (BCTP) exercises, and have never used them in combat since World War Two. Additionally, the mission is not exercised at the combat training centers because of space and time limitations. Further, there is limited discussion of these operations at the Army's schools. The current American military psyche has little room for operations which do not have a quick and easily identifiable payoff.<sup>1</sup> Observations by commanders tend to overlook the erosion of enemy combat power resulting from the cumulative effects of numerous simultaneous and sequential engagements, and from battles throughout the extended depth of the battlefield. Infantry disruption operations behind the enemy lines may have no immediate visible payoff, but over time they will erode the enemy's ability to sustain his combat forces and to effectively command and control those forces. In other words, there will be little immediate impact on the enemy's combat *forces*, but significant impact on his ability to generate combat *power*.

The changing strategic environment, particularly the demise of the Soviet Union, has resulted in an evolution of U.S. military doctrine, with one result being a recognition

of the likelihood of a non-linear battlefield environment. Though at face value this may make operations behind the lines less applicable and practical, there is an increased need for units to be familiar with and capable of accomplishing missions in enemy-controlled territory.

Army doctrine, as described in FM 100-5, Operations, the Army's keystone doctrinal publication, underwent several fundamental changes with the 1993 version. A significant change to Army doctrine is the recognition of a continuum with respect to the battlefield framework, due to the increasing dispersion of the battlefield. There may be no easily defined "front" and "rear", which means that the differentiation between close, rear, and deep operations is no longer possible. The line between these operations will be invisible and may change rapidly. To take advantage of this changing battlefield environment, the Army places a premium on the simultaneity of operations throughout the continuum of the battlefield, the first major change to Army doctrine. Deep operations may now be the decisive operations, rather than having a secondary role in supporting the close battle by setting conditions for future close operations.<sup>2</sup> The second major change to Army doctrine is an increased emphasis on joint and combined operations. The Army will rarely operate independently of the other services, and will increasingly be involved in operations in consonance with the forces of other nations. This establishes an inherent requirement for a high degree of coordination in both the planning and execution of operations.<sup>3</sup> Finally, there is a recognition in the new FM 100-5, Operations of the mandate imposed on commanders to conduct quick decisive operations with minimal casualties.<sup>4</sup>

The changes to doctrine require a reassessment of the applicability of some of the army's tactics. This paper examines the relevance of infantry deep interdiction operations to the new doctrine. Before pursuing the question, several terms must be defined.

Interdiction is defined in FM 100-5, Operations, as action which "destroys enemy forces, delays and disrupts their maneuver, and diverts their resources from the main effort. Interdiction is a means to direct combat power simultaneously throughout the depth of enemy forces and hasten the enemy loss of initiative and ultimate destruction."<sup>5</sup> Infantry interdiction operations must be differentiated from several other operations in the enemy rear areas which are outside the purview of this paper. Partisan operations are not considered because partisans are generally not conventional soldiers, and their activities are usually carried on in support of strategic or higher-level operational objectives. This paper focuses on interdiction in support of tactical and lower-level operational objectives. Infantry deep interdiction operations are also not to be confused with special operations. The latter, although tactical actions in themselves, are generally focused on theater operational and strategic objectives.

The remainder of this paper addresses the relevance of infantry deep interdiction operations to the new doctrine. Section Two describes three historical examples of infantry interdiction operations which show the potential of these undertakings as well as several lessons that can be applied to their modern application. The 32nd Russian Cossack Division allowed itself to be bypassed by the Germans during Operation Barbarossa, then emerged to strike continuously at the German supply network before being tracked down and destroyed. The 6th Division of the North Korean

People's Army infiltrated the lines of the U.S. I Corps in the Pusan Perimeter, striking in the rear of the 25th Infantry Division, and forcing the corps to cancel its counterattack out of the perimeter in early August, 1950. Finally, the operations of the 10th Mountain Division (Light) during REFORGER 1990 show the modern application of stay-behind and infiltration tactics to interdict the enemy's rear area operations. These three examples offer a historical basis for the analysis of Section Three. In Section Three, the application of infantry interdiction operations is assessed in terms of relevance to current doctrine. If the benefits to be gained by these high risk operations can be achieved by less risky means, then their relevance is definitely open to question. However, if their value can not be replicated by other means, then consideration must be made to employ such tactics in the future. The conclusions in Section Four offer some recommendations so that infantry interdiction operations can be applied in a manner that makes them not only more effective, but also less risky. This may provide a more palatable tool to commanders in the field, and will thus offer a more useful option for applying combat power across the entire continuum of the enemy's battle area.

## II. HISTORICAL BASIS

### *32nd Russian Cossack Division, 1941*

On 22 June, 1941, the German Army attacked Russia. The German offensive was initially very successful in terms of tempo and distance covered. Whole Russian armies were annihilated by German encirclement operations. However, the cost of maintaining the momentum necessary for successful large-scale encirclement operations was that the Germans bypassed large areas which could not be easily traversed.

During pre-war exercises, the Soviet General Staff had realized that they could not stop the German armored spearheads near the border. They decided, therefore, on a strategy of delay in order to separate the attacking armor from the supporting infantry formations. They would then deal with each group separately with their operational echelon in the interior of western Ukraine. Integral to this strategy was the insertion of small infantry and cavalry forces in the German rear areas to disrupt the lines of communication and further the separation of the armor from infantry formations.<sup>6</sup> The 32nd Russian Cossack Division was assigned the mission of disrupting the rear areas of Field Marshal Fedor von Bock's Army Group Center, which was continuing the attack towards Smolensk and Moscow. To insert the force in the rear of the Germans, the Cossacks hid in the Pripet Marshes until the attacking German formations passed them by. Mobility in the Pripet Marshes was extremely limited, with only a few small trails crossing the otherwise swampy terrain. In addition to the difficult terrain, coordinated German operations in the area were difficult because the Pripet Marshes were the boundary between Field Marshal Gerd von Rundstedt's Army Group South and Bock's Army Group North. By mid-July the Soviet forces north of the Pripet Marshes had been

encircled and were being reduced, and on 11 July Colonel General Heinz Guderian's Panzer Group 2 was crossing the Dnepr River. This was the trigger for the 32nd Cossack Division to go into action.<sup>7</sup>

The 32nd Russian Cossack Division was organized with four troops of about 100 soldiers each, and a three-gun artillery battery. The Cossacks were reinforced by other Russian soldiers who had escaped from the German encirclement and taken refuge in the swamps of the Pripet Marshes. In all, the division was approximately 750 men strong. The Cossacks provided themselves with horses and a few vehicles found in the area, thus making the division tactically mobile. They were supplied with a large amount of explosives, and were resupplied to a limited extent by air. Most supplies, however, came from foraging, which was difficult, given the limited sustainment capacity of the Pripet Marshes. Indeed, one captured Cossack told his captors that he had survived for weeks by eating nothing but tree bark. Orders came via couriers, who either infiltrated through the German lines dressed as civilians, or parachuted in.<sup>8</sup> This obviated the need for long range communications systems.

Upon being ordered to begin disruption operations, the 32nd Cossack Division moved from the Pripet Marshes north into the area west of Bobriusk, which was mostly marshy and forested. Once in this critical sector of the German lines of communications they destroyed road and railway bridges, mined the German supply routes, and ambushed German supply columns and courier vehicles. Occasionally they attacked the supply trains. During the day the Cossacks stayed hidden, sending patrols out for security as well as intelligence gathering. The patrols, dressed in peasant garb, reconnoitered and marked routes for use by raiding forces at night. They made good use of the local

populace as an intelligence source, though at this point in the war the population was not totally friendly to the Cossacks.

Widely dispersed in hide positions, the Cossacks assembled upon signal by red flare, and began operations. Action was continuous throughout the night, placing a heavy burden on the reactive German command and control system and on the morale and physical readiness of the German soldiers. The Cossacks' actions reflected detailed coordination and intelligence work. Usually, their operations were characterized by dispersed acts of sabotage, though they were always synchronized against the same type target. However, when a large supply train was due, the Russians combined for large-scale raids, with a few small outlying actions to divert attention from the main effort. Just before dawn the Cossacks dispersed to new hide positions to rest and prepare for the next night's action.<sup>9</sup>

The most effective tactic employed by the Cossacks was laying well-camouflaged mines on the primary roads and railroads. This not only destroyed many supply vehicles and rail engines and cars, but disrupted the flow of traffic while German mine-clearing squads swept the roads every morning. The Cossacks were innovative in quickly developing methods to counter German defensive measures, and were continually successful in significantly disrupting the flow of material in the area. This had significant effects on Army Group Center's Ninth Army, which, due to disruptions in their supply lines, had to delay further offensives in support of Guderian's Panzer Group 2's attack toward Smolensk.<sup>10</sup>

The Germans' initial response to the actions of the 32nd Cossacks was to detail the 87th Infantry Division, which was the Ninth Army reserve, to reinforce security

detachments along the railroads. However, this merely caused the Cossacks to shift tactics. The Cossacks alternated between widely dispersed acts of small sabotage and coordinated attacks on the security detachments. Realizing that these reactive tactics could not be successful, the 87th Infantry Division was ordered in the beginning of August to neutralize the enemy in the area by seeking out and destroying them. The commander of the 187th Infantry Regiment, assigned this task, decided to encircle the enemy and destroy them completely in one operation.<sup>11</sup> Success depended on responsive and accurate intelligence to pinpoint the Cossack's location.

The Cossacks discovered the German plan and began exfiltrating from the area toward the east. On 5 August they attempted to break out of the area as a combined unit. This made them much easier for the Germans to track. The Germans reacted rapidly and positioned blocking forces to prevent further escape of the Cossacks. The Cossacks then tried to escape to the south back into the Pripet Marshes. In their attempt they exposed themselves and the Germans reacted quickly to encircle them by 6 August. The encircling German forces then began to collapse the pocket. The resulting close combat was fierce, requiring the use of hand grenades and bayonets, since mortars and machine guns had little effect in the thick forest. Throughout the night of 6-7 August, the Cossacks attacked repeatedly in their attempts to break out. But since they were dispersed, these attacks were disjointed and rarely effective. The Cossacks collapsed their positions into a tight defensive enclave and fought until their annihilation by mid-day on 7 August. Very few made it out of the cordon, and even fewer returned to Russian lines.<sup>12</sup>

The operations of the 32nd Cossack Division were successful in disrupting the supply lines of the German forward forces, and thereby delaying their advance. This permitted the Russian operational echelon to regroup around Smolensk and buy enough time for the strategic reserve to be formed and deployed to launch the counteroffensive forward of Moscow. Additionally, the Cossacks tied down reserve forces that could have been otherwise employed in support of the German offensive.

This action by the 32nd Cossack Division was one of the first of many such operations by Soviet forces. Throughout the later part of 1941 and through mid-1942, the Soviets relied to a great extent upon the operations of forces behind German lines. This was part of Stalin's strategy of "people's war" until the regular forces could be mobilized sufficiently for the great counteroffensive which would throw the Germans back out of the Soviet Union. Though the Soviets generally relied on partisan guerrilla forces for disrupting the German lines of communications, regular units such as the 32nd Cossack Division were infiltrated through the lines for critical actions. These actions were coordinated to a great extent with the operations of the Soviet operational forces and were to shallower depth than those of the guerrilla partisans (less than 50 kilometers deep).<sup>13</sup>

Though not the only cause of the Germans' operational pause before continuing the attack toward Smolensk, the Cossacks actions show that the interdiction of the operational lines of communications of the enemy can have a significant impact on the enemy's operations. The cost to the 32nd Cossack Division was significant, with virtually all of the 750 soldiers of the division destroyed. Several observations from the experience of the 32nd Cossack Division are relevant to the current analysis. First,

during World War Two, large units could hide in untrafficable terrain and avoid the enemy during his assault through the area. These units could then emerge into the less dense (in terms of combat forces) area behind the enemy front lines. Second, direct attacks of the enemy's combat forces were near suicidal for the Russians. The Cossacks were successful in evading detection as long as they operated through sabotage and mining, and were less successful when they launched large-scale raids.

Further, the Cossacks were able to avoid detection as long as they operated as dispersed small units. There were two advantages to this mode of operations. There was a greater level of confusion on the part of the German command because they could not know the size of the forces operating against them. Additionally, they portrayed a number of small targets for the Germans, which were inherently more difficult to find and track than a large unit was. Once the Cossacks combined to attempt the breakout, they were easy to find and could not escape in the face of overwhelming German combat power. Finally, the Cossacks made good use of the local populace for security and intelligence. The locals provided excellent intelligence about the activities of the Germans so that targeting could be planned.

The environment and the strategic situation on the Eastern Front during 1941 shaped the employment of the Cossack division in interdiction operations. Thus, no enduring lessons can be deduced from this example alone. However, the use of history may have value in providing observable patterns. A survey of other examples of infantry interdiction operations will identify common observations that can be applied to future operations. Nine years after the Cossacks were destroyed, the North Korean People's Army used infantry forces in an interdiction role as a common part of their operations.

### *6th North Korean People's Army (NKPA) Division, 1950*

By early August, 1950, the Eighth U.S. Army was defending a tight perimeter around Pusan, in southeast Korea. U.S. forces were building up inside the perimeter in preparation for the September counteroffensive. The NKPA wanted to collapse the perimeter, throw the United States Army into the sea, and realize their goal of forcible unification of the entire peninsula by the end of August. Approximately twelve NKPA front-line divisions continued relentless pressure against the perimeter, which was defended by five Republic of Korea (ROK) divisions, along with the 1st U.S. Cavalry Division, the badly-depleted 24th U.S. Infantry Division, and the green 25th U.S. Infantry Division, with the 2nd U.S. Infantry Division reconstituting as the Eight Army reserve. The North Korean main effort was in the north sector of the perimeter, towards Taegu. The Eighth U.S. Army commander, Lieutenant General Walton Walker, ordered the 25th Infantry Division, reinforced with the 5th Marine Regimental Combat Team (RCT), to launch an offensive in the southwest, in order to draw some of the North Korean forces from the main attack in the north.<sup>14</sup>

On 7 August, the 35th Infantry Regiment and the 5th Regimental Combat Team (RCT) attacked west from defensive positions to the west of Masan in the first U.S. counteroffensive of the Korean War. The regiments were to attack along two parallel roads to the town of Pansong, where the roads intersected. This would position the division for continued attacks across the Nam River. The 35th Regiment began the attack and made good progress, but was forced to halt its attack because the 5th RCT ran into problems from the start. Units of the 6th NKPA Division had infiltrated behind the 25th Infantry Division's lines on the night of 6 August, and were interdicting the roads

that the 5th RCT was using for its attack, severely disrupting the momentum of the attack. Equally threatening was that the NKPA force was positioned in the Sobuk-san area between the roads that the two regiments were using, effectively separating the two forces, and giving the North Koreans interior lines.<sup>15</sup>

The North Korean People's Army had mastered the art of infiltration, both for shallow penetration attacks to assault front-line forces, and for deeper operations to disrupt the combat support and combat service support activities of the ROK and U.S. Army units. They made excellent use of the mountainous terrain of the Korean peninsula, where they were able to avoid U.S. units who were exclusively road-bound. The normal procedure was for small groups to infiltrate during the hours of darkness over a 2-3 day period. They would then link up and consolidate for attacks in coordination with the frontal attacks by front-line infantry and tank forces, or act independently against the enemy lines of communications.<sup>16</sup> The importance of this tactic was paramount to the overall success of the NKPA, with each soldier in the NKPA taking an oath to the Premier of North Korea affirming his dedication to deep interdiction tactics.<sup>17</sup>

On 5-7 August, the 6th NKPA infiltrated a regiment through the lines of the 24th Infantry Regiment into hide positions in the coal mines of the Sobuk-san. On the morning of 7 August, they attacked convoys along the 25th Infantry Division's MSRs north and west from Masan with mines, mortars, artillery, and sniper fire. This was about 15 km behind the front line 25th Infantry Division positions. The NKPA also ambushed the trail battalion of the 5th RCT as they moved forward along the highway. These attacks effectively held up the 25th Infantry Division for two days. The threat in

the rear was severe enough that Major General William F. Dean, the commander of the 25th Infantry Division, diverted the 5th Marine RCT and the 24th Infantry Regiment to destroy the infiltrators. After two days of hunting and attacking, the commander of the 5th Marines, BG Eddie Craig, reported on the morning of 11 August that the infiltrators were under control. Only then was the 25th Infantry Division able to resume the attack.<sup>18</sup>

The difficulty of dealing with a threat in the rear stems from the lack of good intelligence about the size and location of the enemy force. The 25th Infantry Division's case is a good example of this. On August 10, a day after BG Craig reported the elimination of the infiltrators, a large NKPA force attacked 25th Division Artillery positions at Pongam-ni, destroying most of the 555th Field Artillery Battalion (FAB) and A Battery of the 90th FAB, exacting approximately 300 casualties and 14 destroyed howitzers, as well as destroying about 100 vehicles. The Marines had killed many of the NKPA infiltrators, but the majority of them had simply withdrawn back to their hide positions in the Sobuk-san. They then waited until nightfall and the departure of the Marines to resume their disruption attacks. The 2nd Battalion of the 5th RCT was ordered to attack rearward, and the 3rd Battalion of the 24th Infantry Regiment was to attack from the east, to relieve the artillerymen. However, confusion prevailed, and neither battalion was able to reach the artillerymen. The Marines were called upon again, and the 3rd Battalion, 5th Marines was ordered to attack to the rear to relieve the artillery battalions. This action effectively stopped the forward progress of the 25th Infantry Division, and the U.S. offensive was called off on 13 August. By 15 August, the 25th Infantry Division was back in its original defensive positions. At a cost of over 3000 casualties, the 6th NKPA Division had successfully interdicted the U.S. counter-

offensive. However, the 6th NKPA Division was unable to continue offensive operations to reduce the Pusan Perimeter.<sup>19</sup>

The infiltration and subsequent disruption operations by the 6th NKPA Division was repeated in early September against the 1st Cavalry. Elements of the 4th NKPA infiltrated the 1st Cavalry Division lines, and built up forces well to the rear of the defending front-line units. They then attacked the 1st Cavalry Division's logistics and artillery positions. This forced the 1st Cavalry Division to commit their reserve to fight rear battles, order their artillery to go on combat patrols to find and destroy the infiltrators, and send the 7th Cavalry Regiment to attack to the rear. Actions such as this continued throughout the war and eventually caused the UN forces to commit over one-third of their combat forces to rear area security operations, significantly limiting the combat power that the UN commanders could generate at any given time.<sup>20</sup>

The 6th NKPA Division's interdiction operations were the proximate cause of the cancellation of the I Corps counteroffensive in the southern part of the Pusan Perimeter. Thus, the limited interdiction operations conducted by the North Koreans had operational consequences that significantly outweighed the size of the committed force. The North Koreans had a great deal of success in their interdiction of the lines of communications of the 25th Division. However, when they attacked combat forces, to include the battalion from the 5th RCT and the artillery batteries, the North Koreans suffered significant casualties. The point here is that direct action against combat forces in the enemy rear by lightly armed infiltrators will have inevitable dire consequences. The other major observation is that dispersed operations by infiltrated forces will inherently cause command and control difficulties to the enemy. The 25th Division had great

difficulty in coordinating a response to the threat in the rear, because they never had a good intelligence picture of that threat.

These historical studies from World War II and the Korean War indicate that while infantry interdiction operations can have significant operational effects, they are generally very costly operations. To verify the consistency of these observations, they can be compared with a modern application of infantry interdiction operations.

#### *10th Mountain Division (Light) 1990*

In January, 1990, the 10th Mountain Division (Light) deployed to Europe as part of a REFORGER exercise. The division was assigned to VII Corps, along with the 1st Armored Division and the 2nd Armored Cavalry Regiment (ACR). One brigade of the light division was attached to the 1st AD, and the 10th Mountain Division (Light) was given Operational Control (OPCON) of a heavy brigade from the 1st AD. During the defensive phase of VII Corps battle, the 10th Mountain Division (Light) arrayed its forces with one light brigade defending in a forward sector, the heavy brigade defending in sector behind the light brigade, and one light brigade conducting deep operations in the V Corps rear area.<sup>21</sup>

The light brigade assigned the interdiction mission consisted of two light task forces. The brigade made a truck movement on the night of 14 January into the corps' covering force area, where it occupied hide positions during 2nd ACR's covering force battle on the 15th. After the enemy had penetrated the CFA, one of the battalions infiltrated approximately forty kilometers into the rear area of V Corps, while the other

task force emerged from hide positions and commenced disruption operations in the rear of the forward brigades of the 3rd Armored Division, a first echelon division of V Corps.

By 0600 on 16 January, most of the squads of the infiltrating task force had reached the assigned disruption zone, with the entire task force closing by nightfall. The task force was initially authorized to conduct only non-attributable attacks (artillery fires directed by ground observers) and intelligence collecting during the daylight hours of 16 January, but direct action was authorized at 1830 on the 16th, as the supporting artillery moved out of range. The task force's primary targets were combat service support (CSS) systems, particularly fuel resupply vehicles, and C2 systems, particularly command posts. Disruption operations continued for two more days, until the task force began exfiltrating on 18 January to link up with the corps' counterattacking forces on 19 January.<sup>22</sup>

The other task force, operating in the rear areas of 3rd AD's forward brigades, targeted the division's combat support systems, particularly artillery and MLRS, and command and control (C2) sites. They were authorized only non-attributable attacks, since they were operating within range of VII Corps' artillery systems. Additionally, a notional 105mm battalion of the 10th Mountain Division had been hidden with the stay-behind force and fired in support of this task force.<sup>23</sup> During this period, the two task forces targeted and destroyed sixteen command posts of various levels, 58 fuel trucks, four MLRS, eleven artillery tubes, and one forward area refuel/resupply point. The cost was one company destroyed.<sup>24</sup> The impact on V Corps' fuel status was remarkable in itself. V Corps statistics show that on 15 January, the corps had 100% of its fuel trucks operational. By 17 January, they were at 87%, and were down to 41% available by 18 January, due almost entirely to the light brigade's artillery and direct

attacks.<sup>25</sup> With this limitation on the amount of fuel that could be brought forward, the corps was no longer capable of sustaining its offensive. Equally important was the impact on V Corps C2 system. Observers noted that the continuous night activity in the rear area exerted pressure on and disrupted the V Corps decision cycle at several points in time.<sup>26</sup>

The light brigade repeated its interdiction operations during the VII Corps offensive phase. The two task forces infiltrated to a depth of forty kilometers in front of the attacking heavy brigade of the 10th Mountain Division and the 1st Armored Division. The other light brigade was to conduct an air assault to seize river crossing sites for the heavy forces, but weather prevented the execution of the assault. The brigade conducting deep operations infiltrated through the enemy covering force and into the Main Battle Area of the 8th Infantry Division over a period of two days. They then conducted interdiction operations over a 48 hour period until the exercise ended. During this period, six command posts, fourteen CSS sites, and two forward area refuel/resupply points (FARP's) were destroyed, and two heavy task forces were intercepted by observed MLRS fires.<sup>27</sup>

The observations noted in the discussion of the Cossack and NKPA examples are repeated in the 10th Mountain Division's interdiction operations. First, the interdiction operations by two battalion task forces had significant effect on the enemy operations. V Corps was forced to suspend its attack because it could not sustain the advance due to lack of fuel resupply.<sup>28</sup> Second, the brigade did not suffer any casualties when it conducted non-attributable attacks. The company that was destroyed was lost during a raid on an artillery battery.<sup>29</sup> This is an important observation, and was not lost on the

leaders of the 10th Mountain Division. Indirect fires were by far the most effective single weapon available to the light forces. These non-attributable fires allowed the forces to hit the enemy with enough firepower without having to become engaged in confrontation against vastly superior direct fire weapons. Additionally, this method of attack compounded the confusion of the enemy since he could not know how he was being targeted by very accurate artillery fires.<sup>30</sup> Third, the task forces operated in widely dispersed areas of operations, with individual squads as the operating units. Rarely did the squads combine for platoon- or company-sized operations. This contributed to the confusion on the part of the enemy, and to a lack of effective response by the enemy.

The three historical examples of infantry interdiction operations show several consistent patterns in warfare. These patterns can provide insight toward a theoretical framework for the future application of infantry forces in the deep interdiction role. First, though modern reconnaissance and surveillance technology may make techniques similar to those used by the Cossacks and North Koreans more difficult, the 10th Mountain Division's experience showed that it is still possible to introduce interdiction forces into the rear areas of the enemy.

Second, all three units were successful in interdicting critical parts of the enemy's combat power generation capability. The Cossacks focused on the long lines of communications of the German attacking forces, particularly on the railroad. This interdiction forced the Germans to divert combat forces from the front, and to delay their offensive until the rear lines of communications could be secured. The North Koreans interdicted the routes used by the attacking forces of the 25th Infantry Division, as well

as the main supply route used to fuel and feed the attacking regiments. Though they later attacked the combat support systems, particularly the artillery, it was the interdiction of the rear areas that had the most significant impact on the 25th Infantry Division and eventually caused the offensive to be canceled. The 10th Mountain Division focused a significant part of their interdiction efforts on the V Corps fuel resupply system. This effort alone led to V Corps' inability to continue its offensive. Significantly, in all three cases the chief exploitable vulnerability of the enemy was its logistics tail.

In all three cases the interdicting units suffered losses when they attacked combat or combat support units. The Cossacks were destroyed within two days of direct contact with combat elements of the 87th German Infantry Division. The 6th NKPA Division infiltrators suffered terribly in their attack on the American artillery battalion, and were beaten badly when they encountered the Marine battalion sent to hunt them down. Finally, the 10th Mountain Division lost an entire company during its attack on an artillery battery. Units which move into the enemy's rear can only do so if they are lightly armed, because otherwise they are not sufficiently foot-mobile to infiltrate quickly and undetected. Since they are lightly armed, they have limited defenses against well-armed enemy combat forces who they make contact with by chance or design, and will suffer losses commensurately. Historical evidence shows that infantry interdiction forces must avoid contact with enemy combat or combat support forces. However, current Army doctrine for the employment of infantry forces in the deep interdiction role identifies several missions which inherently involve direct contact with enemy combat and combat support forces.<sup>31</sup>

Finally, there is a consistent pattern that illustrates the extremely high risk nature of infantry interdiction operations. The 32d Cossack Division, though successful in its interdiction mission, was completely wiped out. The 6th NKPA Division stopped the American offensive, but at a loss of over 6000 soldiers, almost the entire two regiments that conducted the infiltration. The 10th Mountain Division hypothetically lost at least one company, during a mission which was largely unopposed by the enemy. Had the enemy focused intelligence assets and combat forces on the light-fighters of the 10th Mountain Division, significantly higher casualty figures could be expected. The remainder of this paper addresses the future viability of infantry interdiction operations given the nature of modern war and the technological advances which both increase the risk to the interdicting force and provide greater opportunities for such interdiction.

### **III. ANALYSIS**

The question posed in the introduction to this paper called for an assessment of the relevance and usefulness of infantry deep interdiction operations. The analysis required to address the question centers on two areas of discussion. First, does the potential cost of infantry interdiction operations in terms of casualties outweigh the potential gains in terms of operational advantage? Second, are there other, less risky, means available to achieve the same operational advantage? Both of these questions must be considered in light of the changes to Army doctrine noted in the introduction.

#### *Modern Application*

A review of the historical examples of infantry deep interdiction suggests that infantry forces should avoid direct contact with the enemy's forces. To do otherwise unnecessarily risks the survivability of the friendly force. Further, such operations should target the enemy's C2 system and his CSS assets. This results in a direct impact on his ability to generate combat power and a secondary effect on his ability to provide effective command and control to his forces.

The purpose of deep interdiction operations is to disrupt the enemy's efforts so that he is not capable of accomplishing his mission. In military terms, this corresponds to defeat of the enemy. Thus, the enemy can be defeated by interdiction means alone. This premise is part of the new Army doctrine, as espoused in the 1993 edition of FM 100-5, Operations. Close operations are no longer the only method of decisively defeating the enemy. The focus of deep interdiction operations, to include those by infantry forces, is to hasten the defeat of the enemy so that he reaches his culminating

point before he achieves his desired end state, or that the enemy commander *perceives* reaching his end culminating point earlier than desired.<sup>32</sup>

Defeating his combat forces as they are presented to friendly forces is one method to hasten the enemy's culminating point, although one that is relatively inefficient. Friendly forces can use psychological and cybernetic approaches to more efficiently and effectively defeat the enemy. By causing the enemy C2 system to become overextended, friendly forces can take the cybernetic initiative away from him. The enemy is then less able to effectively synchronize his available combat power. Interdicting forces can then attack assets critical to his plan and thus affect his decision-making. Once he has lost his ability to synchronize his combat power effectively, then his perception of attacks on one of the combat, combat support, or CSS functions may be given a disproportionate value by the enemy decision-maker. This is how the psychological approach is applied. For instance, if continuous fuel flow to forward units is critical to the success of the enemy's plan, and the enemy commander is unsure of his ability to sustain the offensive logistically, then strikes on his fuel supply system may have effects on his decision-making that far exceed the actual damage caused to the fuel availability by the strikes. The key is to affect the *perception* of the enemy commander as to the nearness of his culminating point.

This analysis leads to the deduction that the enemy C2 system is the proper target for the effects of infantry deep interdiction operations. The enemy's ability to effectively command is a true center of gravity and is always worth attacking.<sup>33</sup> There are three elements of the C2 system that can be targeted: first, the capacity to gather information for the commander; second, the commander's decision-making capability; and third, his

communications system. Disruption of any of these three elements will have disruptive effects on the enemy's ability to effectively command his forces. Application of combat effects across a broad spectrum of targets in the enemy's rear can have both a direct and an indirect effect on his C2 system. These effects will be manifested as the enemy takes reactive precautionary, protective, and defensive measures at an early stage and in great depth. Once he does this, he has ceded the cybernetic initiative. By striking the C2 system, interdiction operations can cause the enemy to become incapable of further organized combat action. Once the enemy's C2 system is incapacitated, any continued action by his army will be disorganized and can be defeated in detail by bringing combat effects to bear against his disjointed forces.

The goal of the commander in conducting synchronized interdiction operations is to present the enemy with a multitude of diverse tactical problems to solve, so that his C2 system is overwhelmed. Infantry in deep interdiction can contribute to this effort by targeting the enemy's C2 systems directly, as well as by striking his CSS systems (thus indirectly targeting the C2 system). Additionally, infantry forces can add greatly to the complementary synergism created by the application of the other attack means available to friendly forces. The critical task is to maintain continuous pressure on his C2 system so that it eventually collapses. Theoretically, this can be done while still enhancing the survivability of the friendly force by avoiding attributable attacks on enemy forces.

### *Simultaneity*

The relative value of infantry forces in deep interdiction operations is measured by how much faster the enemy is forced to his culminating point, or how much faster the

desired friendly end state is reached. In a shift from an earlier focus on sequential operations, current Army doctrine holds that the most effects are gained by the simultaneity of diverse operations across the full spectrum of the enemy's temporal, spatial, cybernetic, and psychological environments. Friendly forces increase the tempo of operations, particularly in the mind of the enemy commander, through simultaneous operations, thereby placing overwhelming stress on his C2 and CSS systems.

By synchronizing all of the friendly assets to work in conjunction with each other, the synergistic effects of the whole system will have far greater impact on the enemy than would all of the forces acting independently. The proper role of infantry forces in deep interdiction operations is to serve as the facilitator for the synchronization of all available assets. Infantry forces can do this by establishing the conditions for other means to be applied, as well as by directing the application of those other means. They can begin the disruption of the enemy C2 system by finding and identifying the enemy C2 nodes--his information gathering systems; his command posts, housing the decision-makers; and his communications systems. The infantry force then selectively targets those systems in such a way as to maximize the disruption of the enemy's ability to command and control.

Infantry forces can direct artillery strikes, to include those by long-range ATACMS, or can work with Air Force attack aircraft by passing locations of targets or by providing terminal guidance for munitions. They also can employ portable electronic warfare equipment to jam selected communications networks. These are all methods of non-attributable attack, which means that the security, and, hence, survivability of the infantry force is enhanced.<sup>34</sup> If deemed a critical target, and non-attributable means are

not available or appropriate, the infantry interdiction force can directly attack a selected soft target, though at significantly greater risk to the friendly force. However, the commander must carefully weigh the value-added advantage to be gained by direct attack of those targets against the potential loss of the force.

In addition to the direct disruption of the enemy's C2 system, the infantry force can continue the disruption indirectly. By maintaining continuous operations in the enemy's rear area, the infantry force causes the enemy C2 system to work continuously. Enemy decision-makers must stay awake and must react to a multitude of situations. This will have long-term effects on the enemy's physical and mental readiness, and on his ability to effectively make decisions. To facilitate this continuous stress on his C2 systems, CSS systems should be struck continuously. The particular CSS function to be attacked depends on the nature of the enemy forces and the situational environment. Against an enemy dependent on motorized transport, fuel delivery systems are an appropriate target for destruction at every available opportunity, particularly when the enemy is on the offensive. When he is defending, interdiction of his lines of communications through mining, ambushes, and artillery strikes will have noticeable impact on his ability to logistically sustain his forces. If the enemy employs helicopters, infantry forces can establish anti-helicopter ambushes near his Forward Area Refuel/Resupply Points.

While the loss of some particular systems may have especially deleterious consequences for the enemy, the key to friendly success is maintenance of continual pressure on his C2 system. Additionally, the confusion caused by friendly forces

throughout the enemy's rear area will have psychological effects on the enemy decision-makers which must not be discounted. According to Sir Basil Liddel Hart,

...while a stroke close in the rear of the enemy force may have an effect more on the minds of enemy troops, a stroke farther back tends to have more effect on the mind of the enemy commander.<sup>35</sup>

The total effects of the psychological pressures on the enemy C2 system will cause an inevitable degradation of its ability to function.

In addition to the indirect effects on the enemy commander's decision-making ability, there will be direct effects resulting from continuous interdiction operations. Confronted with continuous pressure in his rear areas, the enemy commander is faced with a paradox. If he chooses to ignore the impact of attacks on his C2 system and CSS systems, then his culminating point will be reached earlier than planned. If he attacks the force in the rear, then he must deplete maneuver forces that had been dedicated to fight the close battle, or held as reserves to exploit success. This affects his maneuver system and puts his scheme of maneuver at risk of failure because of an alteration of the combat force ratio. This paradox was noted by Sun Tzu over two thousand years ago.

For if he prepares to the front his rear will be weak, and if to the rear, his front will be fragile. If he prepares to the left, his right will be vulnerable and if to the right, there will be few on his left. And when he prepares everywhere he will be weak everywhere.<sup>36</sup>

Similar effects result if he attacks the infantry interdiction force with artillery or helicopters, with corresponding degradation of his fire support system.

The infantry force can be the facilitator for the simultaneous application of combat effects on the enemy. The force capitalizes on the synergistic effects of the application of all friendly assets. If the enemy reacts to the force in his rear, or to damage caused by the activities of that force, then he must increase his level of

communications in order to control the response. This in turn leads to an increased enemy electronic signature, which can be exploited by other friendly forces through intelligence gathering alone, or through the additional application of artillery and air strikes. If he reacts by moving reserve forces to deal with the threat in the rear, then those reserves are no longer stationary and covered, and can be more easily detected and destroyed by air, army aviation, and artillery strikes. In order to protect high value assets, such as his rocket-launchers and attack helicopters, he may be forced to move them out of the threatened area. Those assets are then in a less than optimal location for their employment as designed, and creates a visual signature while they are moving, increasing the likelihood that they will be acquired and targeted by friendly fire assets.

This analysis shows that infantry interdiction operations can play a key role in synchronizing the simultaneous application of all of the available combat power, thus geometrically increasing the combat effects on the enemy. The discussion turns now to the increased coordination requirements inherent in the increased emphasis on synchronization throughout the spectrum of involved forces.

### *Coordination*

A second major change to Army doctrine is the increased linkage of army operations with other services and with the forces of other nations. This relationship carries with it an increased requirement for coordination of interdiction operations. The coordination requirements are too numerous for a comprehensive discussion in this paper. However, to highlight some critical shortfalls in the current doctrine and

organization for infantry interdiction operations, several of the more critical coordination requirements must be identified.

While interdiction operations behind the Fire Support Coordination Line (FSCL) may not require a great deal of coordination with other than US. Army headquarters, infantry forces may be operating forward of the FSCL in deep interdiction operations.<sup>37</sup> Without debating the purpose and use of the FSCL, a great deal of coordination is needed to enhance both the survivability and the effectiveness of the infantry interdiction force. Due to the distance from friendly forces that will generally be the case, the force will have to rely almost exclusively on the Air Force and Army-delivered ATACMS for fire support. This means that the force will have to participate in the joint deconfliction of airspace for its fire support. Further, if future combat is less linear than US. forces have been accustomed to in the past, as posited by the new FM 100-5, Operations, then the coordination of fire support becomes even more difficult.<sup>38</sup>

To maximize its effectiveness, the infantry force should be given as large an operating area as possible, but this increases the difficulty of coordination. If a Restricted Fire Area (RFA) is used to protect the infantry force, then the flexibility of other attack means, such as Air Force delivered munitions and ATACMS, is limited. However, if the flexibility of these other assets is maximized, then the protection of the infantry force is at risk. The current techniques for infantry interdiction operations, as manifested by the experience of the 10th Mountain Division (Light) in Europe and the 25th Infantry Division (Light) in Korea,<sup>39</sup> assign the infantry force to a limited operations area (called a Targeted Area of Responsibility (TAOR)). The infantry force controls all fires within this area. Other means of attack into the TAOR must be coordinated with the

infantry force. The TAOR can shift, or expand and contract, as the enemy picture becomes clearer and the situation develops, but this shift must be coordinated at the joint level. This provides the infantry force with a degree of protection from indiscriminate friendly fires but has two significant disadvantages. First, it places a heavy coordination requirement on the infantry force. Second, it limits the quick engagement of targets inside the TAOR to those identified by the infantry force. The strike of targets acquired by other means must be coordinated with the infantry force, with the associated delays involved in clearing fires. Since the infantry force must operate in the area of greatest density of enemy command and control and CSS systems in order to have greatest effect, the potential for desynchronization of the operational interdiction effort is obvious.

Associated with the fire support control coordination requirements is the coordination of targeting criteria. Some enemy C2 systems, such as particular command posts or frequencies, will be identified as GUARDED enemy assets, meaning that they are not to be attacked by lethal or non-lethal means because they are being exploited for intelligence purposes or to support the deception plan.<sup>40</sup> Further, to prevent unnecessary attack by infantry forces of targets which are already planned to be attacked by other lethal or non-lethal attack means, the infantry force must be given a great deal of information through joint channels. The deep interdiction effort must be synchronized as a system, but it must also be synchronized within the totality of the friendly maneuver and fire plan. Without knowledge of the current plan for attack of the enemy, the infantry force could potentially disrupt the synchronization of the friendly effort.

There is also a requirement for the infantry force to coordinate with any Special Operations Forces (SOF) and corps and division long range surveillance teams in the

area, to prevent lethal or non-lethal fratricide and to exchange intelligence and operations information. If US forces are working in conjunction with forces of other nations, then coordination is even more difficult, though equally critical. US forces may be required to coordinate with partisans or regular forces of U.S. allies working in the enemy's rear, again to prevent fratricide or activities of contra-purpose, and to facilitate information exchange.

While some of these coordination measures can, and should be, worked out prior to the insertion of the infantry force into the enemy rear, the fluid nature of modern combat mandates that dynamic coordination be possible, in order to fully synchronize friendly efforts. This places a requirement for a high-capacity intelligence processing capability in the headquarters of the infantry interdiction force. There is also a need for man-transportable communications systems to be able to facilitate long-range, secure communications with joint headquarters, Special Operating Forces and allied units operating in the area, and Air Force or naval air units, in addition to the already existing requirements for communications with higher headquarters and supporting artillery units.

Currently infantry battalions lack the secure long-range communications ability to support the requirements. Infantry battalions have no tactical satellite communications systems (TACSAT) or long-range high-frequency radio equipment under the current equipment distribution tables. The infantry brigade has one TACSAT system, which is not sufficient to support the decentralized and distributed operations that must be the norm in infantry deep interdiction operations.<sup>41</sup> An alternative that is exercised is the use of retransmission sites to extend the range of the battalion's available communications systems. The danger of this technique is that the resulting electronic signature is

significant and susceptible to enemy direction finding, and places the security of the force at risk.

The issue of coordination is also pertinent to the intra-unit communications necessary to synchronize the interdiction effort. As much coordination as possible must be accomplished by use of the commander's intent, specific targeting guidance, and reliance to the maximum extent possible on decentralized execution. To effectively synchronize the interdiction effort, however, reliable secure communications are necessary between operating elements. Intelligence information must be passed, observed fires must be directed, linkups must be facilitated, and the myriad of other functions must be coordinated by radio transmissions. Again, the current equipment distribution tables do not provide the required capability for internal communications. The PRC-126, the current squad radio, has a range of only 2-3 kilometers,<sup>42</sup> which means that the squad leader must call for fires through his platoon leader, who must then call through the company commander or company fire support team. The limitations on the ability to simultaneously strike several targets is evident. The capacity for transfer of intelligence to a central processing point is also limited.

Thus, the increased emphasis on the inherence of joint and combined operations carries with it coordination requirements that place an impossible demand on the current command, control and communication (C3) systems in infantry organizations.

### *Substitutability*

The analysis of the relevance of infantry interdiction operations must consider the capability of other than infantry interdiction forces to accomplish the synchronization

function and other identified tasks to support the deep interdiction of the enemy's rear. If other systems such as JSTARS, UAV's, Guardrail Common Sensor, and the rest of the suite of high-technology intelligence gathering platforms can find the correct targets, and ATACMS, MLRS, Electronic Warfare (EW) systems, army aviation, and Air Force delivery systems can strike those targets responsively and in a synchronized manner, then there may be no justification for placing the welfare of infantrymen at risk by inserting them into the enemy's rear, where they will be inherently vulnerable to destruction if identified and located. This paper does not attempt to provide an in depth analysis of the alternative intelligence-gathering and strike assets, but does identify the vital tasks that can be accomplished only by having infantrymen in the enemy's rear.

Despite the high level of technology available to US. forces today, commanders can still not provide, with a few exceptions, immediately responsive fires to targets that are identified in the enemy rear. This is true even if the commander identified the target and the corresponding attack means prior to the battle. This is due to several organizational and technological factors. Electronic intelligence gatherers provide an inherently distorted picture of the battlefield. Because of the unavoidable laws of physics, a single electronic acquisition asset can not determine a target's location to the degree of accuracy necessary to strike with fire assets . There is an inherent delay when more than one system must be used to provide accurate targeting data. JSTARS and other systems provide a single-source targeting capability, but the ability to link them to fire delivery systems is limited.<sup>43</sup> On the other hand, a human observer, armed with a Global Positioning System receiver and a radio, can direct accurate fires very quickly.

Only human eyes on target can prevent both the inaccuracies and the time delays that distort the picture of the enemy resulting from electronic surveillance and acquisition.

While the enhanced ability of humans to direct fires is undeniable, the most significant advantage to be gained by having infantrymen in the deep interdiction role is that the human element is interjected into the interdiction system. Unlike non-human systems, men can think, and can react to situations in accordance with the commander's intent. A human can adjust to the enemy's movements and to his countermeasures, and can assess the enemy's intentions. Humans have the ability to gather intelligence that is relevant to the decision to be made, and then rapidly change the focus of observation to address other intelligence requirements. Current cybernetic technology does not allow this capability to non-human systems. Because of these uniquely human capabilities, only a human being, with human eyes and a human brain, can both perform the dynamic intelligence function in the enemy rear and maneuver the deep fires with the precision required to most effectively synchronize the simultaneous attack of the enemy.

Until the technological limitations of U.S. reconnaissance, surveillance, and acquisition systems can be overcome to allow a responsive targeting cue, and fire support C2 systems can be redesigned so that quick accurate fires against perishable targets are the norm, the human can not be replaced as the synchronizer of combat power in the enemy's rear areas. The human being may therefore be the most effective weapon that can be employed against the enemy's C2 system.

Having discussed the irreplaceability of the human being as the most effective synchronizer for deep interdiction operations, the analysis turns now to answer the question of why an infantry force? Why not a multitude of artillery forward observers?

The answer lies in the need for flexibility to accomplish the commander's intent. The force must have the ability to react to the enemy's actions in a multitude of ways. While directing friendly fires is an effective way to affect the enemy C2 system, in order to present the enemy commander with a threat diverse enough to overwhelm his C2 system, other attack means must be employed in order to stress the enemy C2 system fully. Mining roads, cutting communications links, selectively jamming communications networks, sniping at key individuals, cratering defiles or bridges just as the enemy is crossing--all of these actions taking place continuously across a broad area of the enemy's rear portray a threat in the enemy commander's mind that is well out of proportion to the actual force in the rear that he will not be able to discount. A properly task organized infantry force may be the best way to provide the necessary flexibility.

### *Survivability*

The advantages to be gained by having an infantry force in the enemy's rear are significant. The synchronization of the attack on the enemy C2 system to cause his early defeat is best facilitated by an infantry force in the enemy's rear. However, there is a significant risk that the commander must keep in mind when considering the potential use of an infantry force in the deep interdiction role. An infantry unit must first get into the enemy's rear area. While there are several techniques for accomplishing this task, all are high-risk operations. To allow the interdiction efforts to achieve operational objectives, the infantry force must penetrate to the operational depth of the enemy command and control system. This generally requires an infiltration of at least thirty kilometers.<sup>44</sup> The risks of detection during the infiltration are great, particularly given

the increased presence of high technology surveillance equipment available to enemies that the U.S. Army can expect to encounter in the future. The challenges posed by relatively open terrain and by an enemy equipped with developed reconnaissance and surveillance systems become highly problematic. This is especially true in areas occupied by non-friendly populations.

After getting in to the enemy's rear, the unit must then operate for an extended period of time, sufficient to accomplish the objective of defeating the enemy's C2 system. This carries with it inherent risks of detection and then inevitable destruction. The unit must be lightly armed and equipped in order to facilitate its interjection into the enemy rear areas. This means an inherent weakness in its ability to defend itself against a determined enemy. And as stated earlier, if the force is successful in affecting the enemy commander's decision-making ability, then the enemy will be a determined foe in its efforts to destroy the interdicting infantry force. As Carl von Clausewitz wrote,

Remember that both sides fumble in the dark at all times. One will quickly realize that a party sent past the enemy's wing to raid his rear is like a man in a dark room with a gang of enemies. They will get him in the end. The same fate awaits the raiders.<sup>45</sup>

The infantry interdiction force must rely on its ability to remain undetected as its key to survivability. If the force is located, the enemy will be able to bring a wide variety of forces to bear to destroy it. Though this may result in the intended desynchronization of the enemy's plan, it offers no solace to the infantrymen who are killed or captured. And with the mandate for decisive victory with minimal casualties, as cited in FM 100-5, Operations, this is an unacceptable outcome.<sup>46</sup>

The survivability of the force must also be considered in terms of logistical supportability. While interjection of a unit into the enemy rear by means of stay-behind

operations may allow caching of some supplies, infiltration by foot and extended operations by interdiction forces will require resupply of batteries, ammunition such as mines and explosives, repair parts, food, and possible water. The capacity for resupply of a force deep in the enemy rear becomes very problematic. Without this capability, the force will quickly lose its capability to contribute to the synchronized interdiction effort.

Further, the questionable ability to evacuate casualties places a physical and psychological burden on the infantry interdiction force. Even if the unit is successful in avoiding direct contact with the enemy, there will be inevitable non-battle injuries. With very limited medical capability accompanying the interdiction force (the equipment needed to provide definitive medical care makes it unfeasible to infiltrate sufficient medical support with the force), the only possible recourse is to evacuate the casualties. Even if air or ground medical evacuation were possible, the risks of detection increase greatly with every movement signature near the force. Given the bias in the U.S. military establishment toward guaranteed medical care, the inability to properly and reliably care for casualties among a deep interdiction force becomes prohibitive.

The risks associated with infantry interdiction operations are significant. The mandate for minimal casualties in army operations means that a commander must be extremely conservative when weighing the advantages to be gained by the use of infantry units in the deep interdiction role. Though there are undeniable advantages that are accrued by having such a force in the enemy rear, the commander must ensure that the same advantages can not be achieved by less risky means. Even then, he must keep in mind the relatively risk of suffering heavy casualties in an interdicting infantry force.

#### **IV. CONCLUSIONS AND RECOMMENDATIONS**

The fundamental conclusion of this paper is that light infantry forces should generally not be used in a deep interdiction role. The tactic should not be discarded from the retinue of light infantry missions, but commanders must be extremely wary of assigning this role to infantry forces. The most effective use of infantry forces in deep interdiction is for them to serve as the synchronizer of the entire deep interdiction effort. Infantry forces can potentially contribute greatly to the efforts to hasten the enemy toward his culminating point by targeting his command and control system in particular. However, since other means are available to produce most of the effects of the deep interdiction effort, the commander must be sure that his particular objectives can not be achieved by those other means before he even considers the use of infantry in the deep interdiction role.

Interdicting infantry should operate exclusively using non-attributable attacks, in order to avoid presenting any signature to the enemy. The risks of loss of the force through direct attacks on enemy reserves, moving columns, and other enemy combat elements are too great to warrant their use. Though ambushes and raids have a definite place elsewhere on the menu of infantry missions, infantry units in the deep interdiction role must avoid enemy combat units and focus on non-attributable attacks. However, the current organization of light infantry forces, particularly in terms of communications equipment, limits the ability of those units to perform the coordination required to synchronize the interdiction effort. Additionally, the logistics difficulties inherent in deep infantry interdiction operations place limits on the effectiveness of that force.

The infantry force must rely on non-attributable attacks to allow it to survive, but that requires responsive artillery and Air Force fires, and a large quantity of mines and explosives. Since the depth required to have operational effects on the enemy command and control system will generally place the force past the FSCL, the coordination of artillery and Air Force fires becomes extremely difficult procedurally, and nearly impossible given the communications capability of the light infantry force. The infantry force can carry with it only a limited quantity of mines and explosives. Continuous and effective interdiction of the enemy requires a large quantity of mines and explosives, available only through resupply. Resupply of the interdiction force with large quantities of ammunition is difficult, and even if successful, risks the detection of the force.

The apparent discontinuity between the requirements for coordination to support the synchronization of the deep interdiction effort means that infantry can not be employed effectively in the deep interdiction role. Several modifications to the equipment distribution to the light infantry battalion must be made to allow the infantry to be employed as the synchronizer of the deep interdiction effort.

The current emphasis on decentralized, small-unit actions throughout an area of operations is correct, but the means to coordinate these dispersed efforts must be improved. The battalion is the correct command and control headquarters for the deep interdiction effort to enable the necessary synchronization. However, the battalion must be able to coordinate its internal efforts and coordinate its efforts with the rest of the friendly forces. This requires a significant upgrading of the available communications package in the light infantry battalion. Squad leaders should have the communications

necessary to direct fires and to send and receive intelligence and coordinate information across a long range.

The light infantry battalion does not have an organic TACSAT, and the brigade has only one. Thus, the battalion has no secure long-range communication system that is protected from direction-finding by the enemy. Because of the increased coordination required by the inherence of joint operations, battalions need a TACSAT capability to communicate securely and reliably with friendly headquarters and with other deep forces.

Since deep interdiction forces will have to rely primarily on Air Force assets for fire support, due to the normal operating distances from friendly artillery systems, the ability to direct Air Force munitions is critical. This requires not only the suite of communications necessary to talk to Air Force fighter bombers, but also the means to designate targets for them. The light infantry division has only three Ground/Vehicle Laser Locator Designators (G/VLLD), which are required to provide terminal guidance to Air Force guided munitions, Hellfire missiles, and Copperhead artillery rounds.<sup>47</sup> Thus the battalion in the interdiction role has an extremely limited capability to provide terminal guidance. Each light infantry battalion should have at least one G/VLLD.

The ability to resupply the infantry force must be enhanced. Lightweight mines and longer-life or rechargeable batteries will reduce the quantity of resupply necessary, but there will still be a significant logistics effort required. A capacity for delivery of supplies by remotely piloted vehicle or guided missiles should be considered.

The medical treatment capability of the light battalion must be enhanced. Some light infantry unit medics should be trained to the level of proficiency of Special Forces medics so that injured soldiers can at least be stabilized. Additionally, light infantry units

should train with SOF helicopters for clandestine evacuation of medical casualties from the enemy rear. These measures would enhance the capability of the unit to care for casualties, but there remains a significant risk that proper care will not be available.

With the modifications outlined above, infantry interdiction operations may be more viable for light infantry forces in the future. Unfortunately, given the current trend towards economies in units, these recommendations may be prohibitively expensive. Infantry units in the deep interdiction role can have a tremendous impact on the enemy's command and control system. As such, they can attain operational objectives, placing the relative value of their operations far above those of an infantry battalion in the front lines. However, commanders must carefully consider their use in this role, weighing the risks of loss of a significant force against the potential advantages. Technology is providing commanders the capability to attack the enemy simultaneously throughout the depth of his forces without the need to resort to high-risk infantry interdiction operations. However, the infantry will remain the most flexible arm of the U.S. Army, and should have the capability to provide its unique capabilities to the commander if called upon.

<sup>1</sup> MG Peter J. Boylan, "Complementary Force Operations," Military Review (June 1990), 30.

<sup>2</sup> US Army, FM 100-5, Operations (Washington, DC: Department of the Army, 1993), 7-12.

<sup>3</sup> FM 100-5, Operations, 2-0.

<sup>4</sup> FM 100-5, Operations, 1-3.

<sup>5</sup> FM 100-5, Operations, 2-18.

<sup>6</sup> Bryan I. Fugate, Operation Barbarossa (Novato, CA: Presidio Press, 1984), 46.

<sup>7</sup> E. Bergen, "Encirclement and Annihilation of the Russian 32d Cossack Division 6-7 August, 1941," Historical Manuscript #D-075 (Office of the Chief of Military History, Headquarters, European Command, 25 April, 1947), 6 and 22-23.

<sup>8</sup> Bergen, 4 and 22-23.

<sup>9</sup> Bergen, 6-8.

<sup>10</sup> Bergen, 7-9.

<sup>11</sup> Bergen, 10-11.

<sup>12</sup> Bergen, 18-22.

<sup>13</sup> Otto Heilbrunn, Warfare in the Enemy's Rear (New York: Praeger Press, 1963), 37.

<sup>14</sup> Edwin P. Hoyt, The Pusan Perimeter (New York: Stein & Day, 1984), 145.

<sup>15</sup> Hoyt, 145-151 and Clay Blair, The Forgotten War (New York: Doubleday Books, 1987), 190-197.

<sup>16</sup> Headquarters, Eighth Army Korea, Enemy Tactics (Washington, DC: Office of the Chief of Military History, 1952), 112-117.

<sup>17</sup> The "Oath to Generalissimo Kim" included the line, "I solemnly swear that I will destroy all lines of communications which the enemy has to use...I am willing to become a member of the advance party which is well armed against the imperialistic American troops and against the Republic of Korea soldiers who are traitors to Korea." A copy of the oath was found by a 25th Infantry Division patrol on 23 October, 1950. Headquarters, 25th Infantry Division, "Historical Report: 25th Infantry Division in Korea, 1-30 October 1950," entry for 24 October, 1950.

<sup>18</sup> Blair, 190-197.

<sup>19</sup> Hoyt, 168.

<sup>20</sup> CPT Russell A. Guegler, Combat Actions in Korea (Washington: Combat Forces Press, 1954), 39-46.

<sup>21</sup> Center for Army Lessons Learned, "After Action Report: Centurion Shield 90" (Fort Leavenworth: United States Army Combined Arms Center, 22 May, 1990), 13.

<sup>22</sup> COL Wolf D. Kutter, "Deep Behind Enemy Lines," Military Review (June, 1990), 44-45.

<sup>23</sup> LTC Franklin L. Hagenbeck, "Deep Operations," Infantry (July-August, 1990), 13.

<sup>24</sup> Hagenbeck, 13.

<sup>25</sup> Headquarters, 10th Mountain Division (Light), Unpublished briefing notes, February, 1990.

<sup>26</sup> Center for Army Lessons Learned, 18.

<sup>27</sup> Kutter, 45.

<sup>28</sup> Headquarters, 10th Mountain Division (Light).

<sup>29</sup> Hagenbeck, 13.

<sup>30</sup> CPT Richard E. Dauch and LT Shawn R. Schiffer, "Light Infantry Company at REFORGER," Infantry (September-October, 1990), 30.

<sup>31</sup> Infantry doctrine identifies the following seven targets for infantry interdiction forces: headquarters elements and C2 facilities; fire support elements; logistics units and installations; forces that the enemy could otherwise commit in his main effort; key terrain to facilitate attack; movement of enemy reinforcements; enemy reserve forces. From COL Huba Wass de Czega, "Three Kinds of Infantry," Infantry (July-August, 1985), 13.

<sup>32</sup> The use of culminating point refers to both offensive and defensive operations, as defined in FM 100-5, Operations, 6-8.

<sup>33</sup> COL John A. Warden III, The Air Campaign (Washington, DC: National Defense University Press, 1988), 53.

<sup>34</sup> Boylan, 33.

<sup>35</sup> Sir B.H. Liddell Hart, Strategy (London: Faber and Faber, Ltd., 1954), 331.

<sup>36</sup> Sun Tzu, The Art of War, translated by Samuel B. Griffith (London: Oxford University Press, 1963), 98.

<sup>37</sup> Kutter, 38-49.

<sup>38</sup> FM 100-5, Operations, 6-12.

<sup>39</sup> LTC Michael A. Thompson, "Light Infantry In Stay-Behind Operations," Infantry (March-April, 1991), 31-37, and Kutter, 38-49.

<sup>40</sup> US Army, FM 34-1, Intelligence and Electronic Warfare Operations (Washington, DC: Department of the Army, 1993), 5-13.

<sup>41</sup> Headquarters, Department of the Army, TOE Handbook 07015L-CTH, Infantry Battalion (Light) (Washington, D.C.: Department of the Army, 1990), 17-22.

<sup>42</sup> Headquarters, Department of the Army, TM 9-1260-477-24P, Combat Net Radios (Washington, D.C.: Department of the Army, 1989).

<sup>43</sup> Course notes, LTC Douglas A. Anderson, "A305, Advanced Fires", Command and General Staff Officers Course, Fort Leavenworth, KS, 9 April, 1993.

<sup>44</sup> Heilbrunn, 145.

<sup>45</sup> Carl von Clausewitz, On War, edited and translated by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1984), 462.

<sup>46</sup> FM 100-5, Operations, 9-4.

<sup>47</sup> Department of the Army, TOE Handbook 07015L-CTH, Infantry Battalion (Light), 18.

## BIBLIOGRAPHY

Anderson, Douglas A., LTC, USA. Course notes, "A305, Advanced Fires." Command and General Staff Officers Course, Fort Leavenworth, KS, 9 April, 1993.

Bergen, E. "Encirclement and Annihilation of the Russian 32d Cossack Division, 6-7 August, 1941." Historical Manuscript #D-075. Office of the Center for Military History, Headquarters, European Command, 25 April, 1947.

Blair, Clay. The Forgotten War. New York: Doubleday Books, 1987.

Blumentritt, Guenther. "Operations Against Rear Lines of Communications." Historical Manuscript #B-684. Office of the Center for Military History, Headquarters, European Command, 1951.

Boldin, E. "Forty-Five Day Raid in the Enemy Rear." In Strategy and Tactics of the Soviet-German War. Hutchinson and Company, pp.138-142.

Boylan, Peter J., MG, USA. "Complementary Force Operations." Military Review. June 1990, pp.27-37.

Canby, Steven L. "Light Infantry in Perspective." Infantry, July-August, 1984, pp.28-31.

Center for Army Lessons Learned. "After Action Report: Centurion Shield 90." Combined Arms Training Activity, Fort Leavenworth, KS, 22 May, 1990.

Clausewitz, Carl von. On War. Edited and translated by Michael Howard and Peter Paret. Princeton: Princeton University Press, 1984.

Dauch, Richard E., CPT, USA, and LT Shawn R. Schiffer, USA. "Light Infantry Company at REFORGER." Infantry. September-October, 1990, pp.29-33.

Department of the Army Pamphlet 20-234, Operations of Encircled Forces: German Experiences in Russia. Washington, DC: US Government Printing Office, 1952.

Department of the Army Pamphlet 20-269, Small Unit Actions During the German Campaign in Russia. Washington, DC: US Government Printing Office, 1953.

Department of the Army Pamphlet 20-201, Military Improvisations During the Russian Campaign. Washington, DC: US Government Printing Office, 1951.

Department of the Army Pamphlet 20-240, Rear Area Security in Russia: The Soviet Second Front Behind the German Lines. Washington, DC: US Government Printing Office, 1951.

Depuy, William E., GEN, USA. "The Light Infantry: Indispensable Element of a Balanced Force." Army. June, 1985, pp.26-41.

Drummond, Raymond R., MAJ, USA. "Light Infantry: A Tactical Deep Battle Asset for Central Europe." Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2 December 1985.

Fugate, Bryan L. Operation Barbarossa, Novato Ca: Presidio Press, 1984.

Goehring, Russell J., MAJ, USA. "The AirLand Battle Trojan Horse: The Use of Bypassed Forces to Increase Tactical Depth in the Defense." Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 19 November 1986.

Guegler, Russell A., CPT, USA. Combat Actions in Korea. Washington, D.C.: Combat Forces Press, 1954.

Hagenbeck, Franklin L., LTC, USA. "Deep Operations." Infantry. July-August, 1990, pp.12-14.

Headquarters, 10th Mountain Division (Light), Unpublished briefing notes, February, 1990.

Headquarters, 25th Infantry Division, "Historical Report: 25th Infantry Division in Korea, 1-30 October 1950."

Headquarters, Department of the Army, TM 9-1260-477-24P, Combat Net Radios. Washington, D.C.: Department of the Army, 1989.

Headquarters, Department of the Army, TOE Handbook 07015L-CTH, Infantry Battalion (Light). Washington, D.C.: Department of the Army, 1990.

Headquarters, Eight Army Korea. Enemy Tactics. Washington, DC: Office of the Chief of Military History, 1952.

Heilbrunn, Otto. Conventional Warfare in the Nuclear Age. London: George Allen & Unwin, Ltd., 1965.

Heilbrunn, Otto. Warfare in the Enemy's Rear. New York: Praeger Press, 1963.

Hoyt, Edwin P. The Pusan Perimeter. New York: Stein & Day, 1984.

Kutter, Wolf D., COL, USA. "Deep Behind Enemy Lines." Military Review. June, 1990, pp.38-49.

Liddell Hart, B.H. Strategy. London: Faber and Faber, Ltd., 1954.

Lind, William S. "Light Infantry Tactics." Marine Corps Gazette. June, 1990, pp.42-47.

Mao Tse-Tung, Selected Military Writings of Mao Tse-Tung. Reprint by Combat Studies Institute, US Army Command and General Staff College, Fort Leavenworth, KS, 1949.

McMichael, Scott R., MAJ, USA. "A Historical Perspective on Light Infantry." Research Survey #6. Combat Studies Institute, U.S. Army Command and Staff College, Fort Leavenworth, KS, 1987.

Montross, Lynn. U.S. Marines in Korea, 1950-1953. Washington, D.C.: Headquarters, U.S. Marine Corps, 1954.

Office of the Center for Military History. "Protection of Lines of Communications in the East at the Sector of Army Group Center from 1 Sep 1941 to mid-February 1943." Historical Manuscript #D-102. Headquarters, European Command, 1947.

Office of the Center for Military History. "Some Observations on Railroad Protection in the Communications Zone of the Southern Ukraine." Historical Manuscript #D-157. Headquarters, European Command, 21 April, 1947.

Reznichenko, V.G., LTG, Soviet Army. Tactika. Translated and published by the Foreign Broadcast Information Service, Washington, DC, 29 June 1988.

Richmond, Melvin E., MAJ, USA. "Corps Stay-Behind Force: A Role for the Light Infantry Division on the Central European Battlefield." Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 5 December 1987.

Robertson, Glenn. "Counterattack on the Nakong, 1959." Leavenworth Paper #13. Combat Studies Institute, U.S. Army Command and General Staff College. Fort Leavenworth, KS, December, 1985.

Sandart, Hans Henning von., GEN, German Army. "Considerations of the Battle in Depth." Military Review. October, 1987, pp.8-11.

Simpkin, Richard E. Race to the Swift: Thoughts on Twenty-First Century Warfare. London: Brassey's Defense Publishers, 1985.

Slim, Field Marshall Viscount. Defeat Into Victory. Hong Kong: Papermac Press, 1956.

Sun Tzu. The Art of War. Translated by Samuel B. Griffith. London: Oxford University Press, 1963.

Thompson, Michael A., LTC, USA. "Light Infantry in Stay-Behind Operations." Infantry. March-April, 1991, pp.31-37.

Uhle-Wettler, Franz. Battlefield Central Europe: Danger of Overreliance on Technology by the Armed Forces. Unpublished paper. Center for Army Tactics, U.S. Command and Staff College, Fort Leavenworth, KS, 1985.

U.S. Army. FM 7-20, The Infantry Battalion. Washington, DC: Department of the Army, 1992.

U.S. Army. FM 34-1, Intelligence and Electronic Warfare Operation. Washington, DC: Department of the Army, 1993.

U.S. Army. FM 71--100, The Infantry Division. Washington, DC: Department of the Army, 1992.

U.S. Army. FM 71--100-2, Infantry Division Operations. Washington, DC: Department of the Army, 1993.

U.S. Army. FM 100-5, Operations. Washington, DC: Department of the Army, 1993.

Warden, John A. III, COL, USAF. The Air Campaign. Washington, DC: National Defense University Press, 1988.

Wass de Czega, Huba, COL, USA. "Three Kinds of Infantry." Infantry. July-August, 1985, 11- 13.

Wickham, John A., GEN, USA. "White Paper 1984: Light Infantry Divisions." Washington: Department of the Army, 16 April, 1984.